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WATER SUPPLY OUTLOOK FOR IDAHO



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U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

IDAHO STATE DEPARTMENT OF WATER ADMINISTRATION

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
JAN. 1, 1976

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SURVEYOR ENROUTE TO THE MT. BALDY ARIZONA SNOW COURSE
SCS PHOTO AZ-5460

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 111, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	204 E. 5th. Ave., Room 217, Anchorage, Alaska 99501
Arizona	6029 Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82601

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



WATER SUPPLY OUTLOOK FOR IDAHO

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

R.M. DAVIS

ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D C

|||||
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STATE CONSERVATIONIST
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BOISE, IDAHO

In Cooperation with

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DIRECTOR
IDAHO DEPARTMENT OF WATER RESOURCES

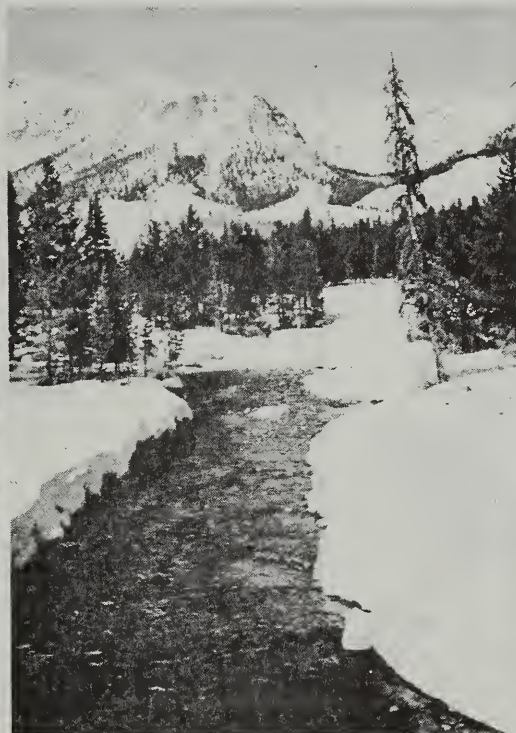
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Report prepared by

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SOIL CONSERVATION SERVICE
SNOW SURVEY SECTION
ROOM 345, 304 N. 8th. ST.
BOISE, IDAHO 83702

WATER SUPPLY OUTLOOK for IDAHO



GENERAL SUMMARY FOR JANUARY 1, 1976

Snow accumulation in the mountains of Idaho thus far in the 1975-76 winter season has been extremely variable. Below normal snowpack exists on the Priest and Spokane River watersheds in north Idaho and the Little Wood, Big Lost and Weiser River drainages in the southern portion of the state. Above to well above normal conditions exist in the southern and eastern watersheds from the Raft River drainage north and east throughout the Snake River Basin. Snowpack is near normal on all other watersheds of the state. The Teton River drainage reports 191% of normal January 1 snowpack as of the 8th of January. Heavy and continuous storms during the first week of January will reflect a marked improvement in snow accumulation throughout the state. Should these storms persist during the month, it can be expected that snow accumulation near February 1 will be near to well above normal on all watersheds of Idaho.

In general, soil moisture is good to excellent due to the wet fall experience before the snowfall began accumulating.

Carryover storage in the irrigation reservoirs is good to excellent throughout the state.

COMPARISON of SNOW COVER

RIVER BASIN WATERSHED	NO.OF COURSES AVERAGED	THIS YEARS SNOW WATER EXPRESSED AS PERCENT OF :	
		LAST YEAR	1958-72 AVERAGE
<u>UPPER COLUMBIA RIVER BASIN</u>			
Kootenai River	4	110	115
Pend Oreille River	37	132	116
Clark Fork River	27	97	130
Flathead River	10	93	88
Priest River	4	53	64
Spokane River	2-4	74	60
<u>LOWER SNAKE RIVER BASIN</u>			
Clearwater River	3-12	144	112
Salmon River	9-11	137	112
<u>MIDDLE SNAKE RIVER BASIN - Northside</u>			
Big Lost River	1-5	154	67
Little Wood River	2-4	142	74
Big Wood River	6-7	137	86
Boise River	6-7	98	98
Payette River	5-8	119	98
Weiser River	1	76	72
<u>MIDDLE SNAKE RIVER BASIN - Southside</u>			
Raft River	1	115	124
Salmon Falls Creek	4	88	108
Owyhee River	4	80	90
Jordan Creek	2	92	90
<u>UPPER SNAKE RIVER BASIN</u>			
Snake Basin - Wyoming	15	--	142
Camas-Beaver Creeks	2	116	106
Henrys Fork River	6-7	210	137
Teton River	2	168	191
Blackfoot River	1-2	122	158
<u>GREAT BASIN</u>			
Bear River - Upper	1	--	102
Bear River - Lower	5	--	121
Montpelier Creek	4	128	109
Cub River	2	86	--




SNOW WATER DEPTHS

As percent of 1958 - 72 15 year average
JANUARY 1, 1976

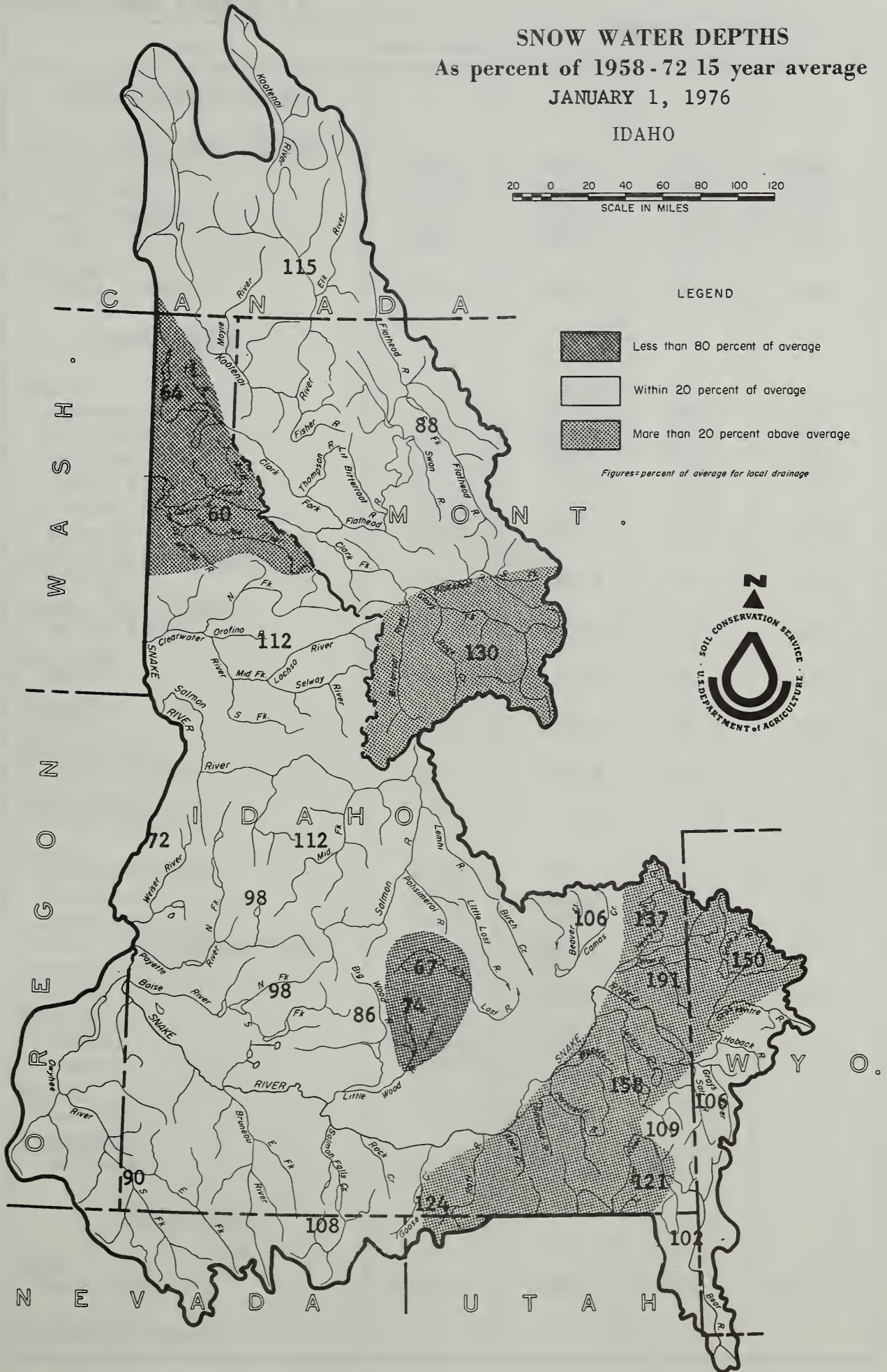
IDAHO

20 0 20 40 60 80 100 120
SCALE IN MILES

LEGEND

-  Less than 80 percent of average
-  Within 20 percent of average
-  More than 20 percent above average

Figures=percent of average for local drainage



RESERVOIR STORAGE (1,000 Ac. Ft.)

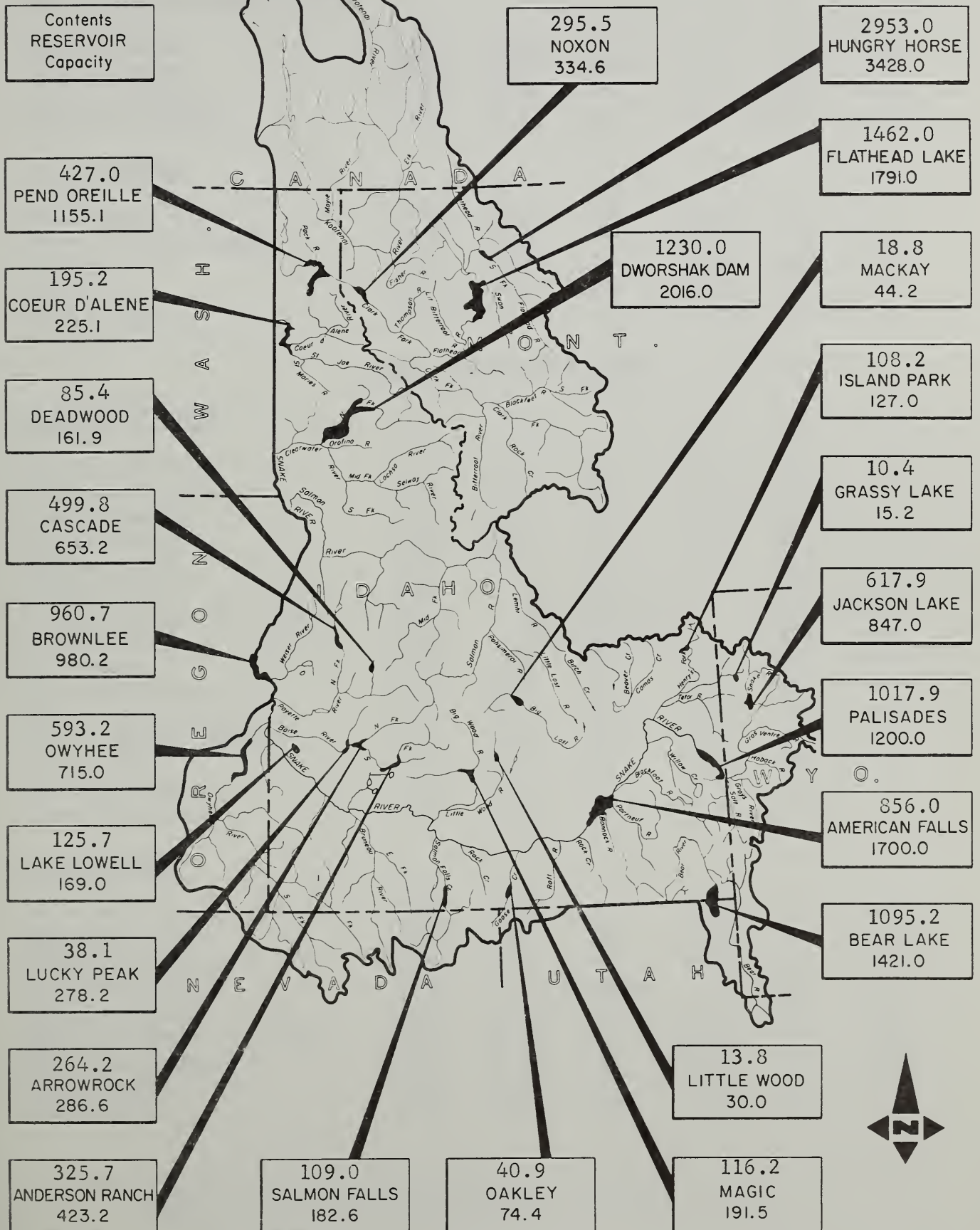
RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1958-72 AVERAGE
UPPER COLUMBIA BASIN				
Clark Fork - Pend Oreille				
Hungry Horse	3428.0	2953.0	2162.0	2766.0
Flathead	1791.0	1462.0	1479.0	1423.0
Pend Oreille	1155.1	427.0	134.2	431.2
Noxon	334.6	295.5	321.2	325.5
Spokane				
Coeur d'Alene	225.1	195.2	61.6	138.2
SNAKE BASIN				
Snake				
Jackson Lake	847.0	617.9	599.3	531.5
Palisades	1200.0	1017.9	978.4	751.3
American Falls	1125.0	856.0	926.4	448.4
Island Park	127.0	108.2	103.5	82.0
Grassy Lake	15.2	10.4	10.5	9.6
Brownlee	980.2	960.7	873.8	792.7*
Goose-Trapper Creeks				
Oakley	74.4	40.9	35.5	12.6
Salmon Falls Creek				
Salmon Falls	182.6	109.0	58.5	25.5
Big Lost				
Mackay	44.2	18.8	21.7	27.7
Big Wood				
Magic	191.5	116.2	100.3	88.5
Little Wood				
Little Wood	30.0	13.8	10.4	11.6
Fish Creek				
Carey Valley	14.4	5.8	3.5	--
Boise				
Anderson Ranch	423.2	325.7	292.2	278.0
Arrowrock	286.6	264.2	215.6	204.9
Lucky Peak	278.2	38.1	50.8	60.3
Lake Lowell (Deer Flat)	169.0	125.7	112.2	106.3
Owyhee				
Owyhee	715.0	593.2	410.1	406.8
Payette				
Cascade	653.2	499.8	397.0	354.0
Deadwood	161.9	85.4	77.3	68.0
Weiser				
Mann Creek	11.1	4.1	2.7	--
Clearwater				
Dworshak	2016.0	1230.0	1214.5	--
GREAT BASIN				
Bear				
Bear Lake	1421.0	1095.2	1087.5	944.4
*Period of Record				

RESERVOIR STORAGE

USABLE CONTENTS (1,000 Acre Feet)

JANUARY 1, 1976

50 0 50 100 150
SCALE IN MILES



SNOW

DRAINAGE BASIN and or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average ^b

UPPER COLUMBIA RIVER BASINPEND OREILLE - PRIEST RIVER

Benton Meadow	2370	12/29	T	T	1.9	3.5
Benton Spring	4900	12/29	10	2.6	9.3	8.4
Schweitzer Bowl	4500	12/30	33	8.8	16.6	14.3*
Schweitzer Ridge	6100	12/30	52	19.2	30.2	21.6*

SPOKANE RIVER

Above Burke	4100	12/29	29	8.4	9.7	--
Fourth of July Summit	3200	12/29	T	T	4.3	4.1*
Lookout	5120	12/29	45	11.8	13.6	15.5
Sherwin	3200	12/31	26	7.9	5.6	--
Sherwin (SP)	3200	12/31	--	7.8	6.0	--

LOWER SNAKE RIVER BASINCLEARWATER RIVER

Cayuse Airstrip	3700	1/2	22	4.8	3.5	5.5*
Cottonwood Butte	5140	12/29	22	6.3	3.7	--
Crater Meadows	6100	1/2	74	21.2	13.8	--
Crooked Fork	3600	12/29	24	6.7	6.0	--
Hemlock Butte	5500	1/2	85	25.8	15.4	--
#Hoodoo Basin	Mont.	6000	Not Measured		17.0	20.8
#Hoodoo Basin (SP)	Mont.	6000	Not Measured		18.1	19.1
#Hoodoo Creek	Mont.	5900	Not Measured		13.9	18.9
Lolo Pass		5240	12/30	54	13.8	10.7
Lower Snowhaven		5300	12/29	37	9.7	5.8
Pierce Ranger Station		3170	1/2	21	5.6	4.5
Powell Ranger Station		3400	12/29	21	6.6	5.0
Savage Pass		6170	12/29	52	14.4	9.1
Shanghai Summit		4600	1/2	35	8.9	8.4
Upper Snowhaven		5600	12/29	29	8.8	6.0

SALMON RIVER

Big Creek Summit		6600	12/26	51	16.0	9.7	13.8*
#Boulder Creek		5500	1/3	33	7.2	9.5	10.0*
Brundage Mountain		7560	12/29	64	21.8	13.8	18.6*
#Deadwood Summit		7000	Delayed			13.1	24.4*
#Galena Summit		8795	12/30	43	11.4	8.9	10.4
#Gibbons Pass	Mont.	7100	12/30	49	11.5	6.7	9.5
Mill Creek Summit		8870	12/30	44	12.6	7.5	10.5*
Moose Creek		6200	12/31	41	9.6	5.2	5.6*
Morgan Creek		7580	12/29	25	6.3	4.0	5.9*

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation. Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average ^b
#Rock Flat Summit	5200	12/29	25	5.5	6.6	6.8
#Secesh Summit	6520	12/27	55	15.7	12.4	--
#Squaw Meadow	5800	12/27	46	14.0	11.5	--
Vienna Mine	8960	Delayed			11.3	--

MIDDLE SNAKE RIVER BASIN - NORTHSIDEBIG LOST RIVER

Bear Canyon	7920	12/29	22	5.4	3.0	--
Copper Basin	7650	12/29	8	1.7	0.9	--
Fishpole Lake	9350	12/29	19	4.6	4.9	--
Lost-Wood Divide	7900	12/29	31	9.2	4.5	--
Stickney Mill	7500	12/29	16	3.2	2.3	--
White Knob	7700	12/31	14	2.4	--	3.6

LITTLE WOOD RIVER

#Bear Canyon	7920	12/29	22	5.4	3.0	--
Garfield Ranger Station	6554	12/31	14	2.6	2.6	4.4*
Muldoon	6300	12/31	13	3.0	2.1	3.2*
Swede Peak	7650	12/31	24	5.7	4.1	--

BIG WOOD RIVER

#Couch Summit	6950	1/2	27	6.2	--	7.4*
Galena	7300	12/30	32	7.7	5.9	8.0
Galena Summit	8795	12/30	43	11.4	8.9	10.4
Graham Ranch	6200	12/29	21	4.2	3.8	5.6
#Lost-Wood Divide	7900	12/29	31	9.2	4.5	--
Mascot Mine	7900	12/29	18	4.3	2.1	--
Mount Baldy	9000	12/30	32	5.6	6.2	8.8
Soldier Ranger Station	6100	1/2	17	3.8	2.4	5.2*
#Vienna Mine	8960	Delayed			11.3	--

BOISE RIVER

Atlanta Summit	7500	Delayed			10.7	15.2*
Bad Bear	5500	12/29	23	5.4	6.1	6.5*
#Bogus Basin	6120	12/30	30	7.5	11.3	9.3
Bogus Basin Road	5360	12/30	10	1.9	5.3	2.4*
Couch Summit	6950	1/2	27	6.2	--	7.4*
Graham Guard Station	5690	Delayed			5.9	--
Jackson Peak	7000	Delayed			--	--
Moore's Creek Summit	6100	12/29	53	16.7	11.1	13.0
#Soldier Ranger Station	6100	1/2	17	3.8	2.4	5.2*
Trinity Mountain	7780	Delayed			14.0	19.1*
#Vienna Mine	8960	Delayed			11.3	--

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation. Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Elevation				Last Year	Average

PAYETTE RIVER

#Big Creek Summit	6600	12/26	51	16.0	9.7	13.8*
Bogus Basin	6120	12/30	30	7.5	11.3	9.3
#Brundage Mountain	7560	12/29	64	21.8	13.8	18.6*
Cozy Cove	5400		Delayed		5.5	6.9
Crawford Ranger Station	4800	12/26	0	0.0	1.4	3.1*
Deadwood Airstrip	5440		Delayed		5.5	6.6
Deadwood Summit	7000		Delayed		13.1	24.4*
#Jackson Peak	7000		Delayed		--	--
Lake Fork	6000	12/27	27	6.5	6.5	--
Rock Flat Summit	5200	12/29	25	5.5	6.6	6.8
Secesh Summit	6520	12/27	55	15.7	12.4	--
Squaw Meadow	5800	12/27	46	14.0	11.5	--

WEISER RIVER

Boulder Creek	5500	1/3	33	7.2	9.5	10.0*
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MIDDLE SNAKE RIVER BASIN - SOUTHSIDERAFT RIVER

Howell Canyon	8000	12/30	38	12.3	10.7	9.9
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SALMON FALLS CREEK

Deadline	6900	12/30	31	8.1	9.8	8.7
Goat Creek Nev.	8800	12/29	26	7.2	8.2	7.2*
Magic Mountain	6700	12/30	30	8.2	7.9	6.9
#Pole Creek R. S. Nev.	8330	12/29	31	9.4	11.5	7.7

OWYHEE RIVER

#Seventy-six Creek Nev.	7100	12/26	12	3.0	5.9	6.2*
Silver City	6400	12/29	16	4.6	6.2	5.6*
South Mountain	6340	12/30	16	4.8	4.0	4.9*

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SNOW

DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average ^b

UPPER SNAKE RIVER BASINCAMAS-BEAVER CREEKS

Camp Creek	6800	12/29	19	4.3	3.8	4.3
Kilgore	6200	12/30	23	4.9	4.1	4.4*

HENRYS FORK RIVER

Big Springs		6400	12/30	45	10.5	5.0	7.8
Grassy Lake	Wyo.	7230	12/30	72	22.9	11.1	14.1
Island Park		6315	12/30	40	8.8	4.4	6.1
Sawtell Mountain		8720	12/30	60	17.1	9.0	14.0*
Targhee Pass		7000	12/30	38	8.2	3.7	6.5*
Valley View		6500	12/30	38	7.8	3.5	6.3
White Elephant		7700	12/30	50	14.0	5.8	--

TETON RIVER

Freds Mountain	Wyo.	8150	1/8	72	17.5	--	--
Pine Creek Pass		6750	1/8	57	12.6	7.3	6.6*
State Line		6650	1/8	45	10.9	6.7	5.7

BLACKFOOT RIVER

Slug Creek Divide		7225	12/31	32	7.1	7.5	--
Somsen Ranch		7000	1/2	31	8.2	5.0	5.2*

GREAT BASINBEAR RIVER

Emigrant Summit		7350	1/8	52	12.4	10.2	9.2*
-----------------	--	------	-----	----	------	------	------

Montpelier Creek

Giveout		6840	12/31	25	6.0	4.6	4.6*
Little Beaver		6970	12/31	28	6.6	6.0	5.4*
Montpelier Creek		6570	12/31	14	3.0	2.2	3.5*
Whiskey Flat		6985	12/31	13	3.1	1.8	3.7*

Cub River

Cub River R. S.		5400	12/29	16	4.3	--	--
#Franklin Basin		8000	12/29	32	10.0	11.3	--
Willow Flat		6100	12/29	20	6.6	7.9	--

(b) 1958-72, 15 year period. #Not located directly on this drainage. * Estimated 1958-72, 15 year Average. (A) Aerial observation. Water content estimated. (SP) Pressure Pillow snow-water equivalent. (R) Radioactive Gage snow-water equivalent.

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
		DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
NAME	ELEVATION						
<u>SPOKANE RIVER</u>							
Lookout	5250	48	11.0	12/29	8.5	--	3.6
<u>SALMON RIVER</u>							
Mill Creek Summit	8870	48	9.4	12/30	4.5	Frozen	4.6
<u>BIG WOOD RIVER</u>							
Galena	7300	48	10.1	12/30	7.0	5.0	7.7
Galena Summit	8795	48	5.8	12/30	1.6	1.0	1.5
<u>RAFT RIVER</u>							
Conner Pass	5700	36	9.8	12/30	8.8	8.2	--
Howell Canyon	8000	48	11.5	12/30	8.9	5.5	8.3
<u>SALMON FALLS CREEK</u>							
Deadline	6900	36	7.4	12/30	6.8	5.7	6.7
Patrick Ranch	5720	36	7.7	12/29	6.5	--	4.4
Pole Creek R. S.	8330	48	9.7	12/29	8.1	6.8	8.1
<u>HENRYS FORK RIVER</u>							
Island Park	6315	48	9.9	12/30	8.6	7.6	10.7
<u>MONTPELIER CREEK</u>							
Giveout Pass	7025	36	9.4	12/31	4.5	2.4	7.5
Jenson Ranch	6580	48	18.7	12/31	14.6	6.1	11.2

Agencies and Organizations Cooperating in Idaho Snow Surveys

GOVERNMENT AGENCIES

States:

Idaho Department of Water Resources
State of Idaho Department of Fish and Game
University of Idaho
Idaho State University
Montana Agricultural Experiment Station
Montana State Water Conservation Board
Montana Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon Agricultural Experiment Station
Oregon Cooperative Snow Surveys
Oregon State Engineer and Corps of
State Watermasters
Utah Cooperative Snow Surveys
Wyoming Cooperative Snow Surveys

Federal:

U.S. Army Engineers

U.S. Department of Agriculture
Forest Service
Agricultural Research Service
Statistical Reporting Service

U.S. Department of Commerce
NOAA, National Weather Service

U.S. Department of the Interior
Bonneville Power Administration
Bureau of Reclamation
Fish and Wildlife Service
Water Resources Division, Geological Survey
National Park Service
Bureau of Land Management

PUBLIC UTILITIES

The Montana Power Company
Washington Water Power Company
Idaho Power Company
Utah Power and Light Company

ORGANIZED PUBLIC AGENCIES

Big Lost River Irrigation District
Blaine Soil Conservation District
Boise Project Board of Control
Idaho Water District #01
Little Wood River Irrigation District
Mann Creek Irrigation District
Salmon Falls Creek Irrigation Company
Twin Falls Soil Conservation District
Big Wood Irrigation Company
Owyhee Project - North & South Board of Control

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SOIL CONSERVATION SERVICE

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necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*

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